

To: Kristi Jones
From: Jeremy Tarr
RE: Context for Governor's call with Markus Wilhem of Strata Solar
Date: August 30, 2017

The Governor has an upcoming call with Markus Wilhem of Strata Solar in response to his email to the Governor (below) expressing concerns that new requirements will interfere with the interconnection of solar projects to the electric grid in 2017. As explained below, Strata, Duke Energy and other stakeholders on this issue met last Friday and appear to have made some progress on issues Markus raised in his email. If Markus still wishes for the Governor to intervene in some way, I'd suggest he seek clarity on how and why, given progress at the stakeholder meeting last Friday. Also, in light of the complexity and strong feelings among stakeholders on the issue, I'd be especially careful about making any commitments on the call.

Background

The interconnection of new solar facilities has been an ongoing issue in recent years between Duke Energy and the N.C. solar industry. To address interconnection issues, the Public Staff at the N.C. Utilities Commission has organized an ongoing stakeholder workgroup, which is currently focused on technical requirements for connecting solar facilities to the electric grid. Duke Energy wants to make sure interconnections meet minimum standards that protect safety and grid stability, so it hired Advanced Energy (AE) to help it develop an interconnection inspection processes and then conduct interconnection inspections at new solar facilities.

This past July, AE released details (attached) about the interconnection process for the rest of 2017. Solar developers have concerns with the process, leading the N.C. Clean Energy Business Alliance (NCCEBA) to reach out to the Public Staff (letter attached) and Markus Wilhem to contact the Governor (letter below). On August 25, the Public Staff met with Duke Energy, solar industry representatives, and AE to discuss the new process. According to my conversation with Tim Dodge at the Public Staff, the parties have agreed to or are evaluating the following next steps, though there is no written agreement. The Public Staff is in ongoing discussion with the stakeholders to follow-up on these next steps and to resolve lingering concerns.

Solar Industry Concerns	Next Steps
AE is insufficiently staffed to accommodate the volume new solar facilities in 2017	AE is adding new resources and working to streamline their inspection processes
AE is allowing only 18 slots in Q4 2017 for interconnection inspections and requires developers to sign up for them by August 4	AE is working with developers to better accommodate developers' construction schedules and to understand which projects are likely to be ready in 2017
Interconnection delays stagnate solar projects and jeopardize their access to 2017 tax credits	Duke Energy is looking at giving solar projects that pass certain safety requirements a conditional permission operate (PTO), which would allow projects to proceed toward interconnection and qualify for 2017 tax credits
AE takes 40 hours to generate each inspection report	AE is developing an inspection checklist for itself and developers to streamline inspections. As projects better adhere to new standards, reports will be shorter and take less time
Cost of \$10k-\$20k per interconnection	AE is looking to use technicians more and professional engineers only when necessary. Costs will decline as projects meet standards without re-inspection

Solar Industry Concerns

Chris Carmody at the N.C. Clean Energy Business Alliance shared with me that the next steps identified in the August 25 meeting have started to address some but not all solar industry concerns. For example, the Public Staff will meet with AE on September 6 to continue discussing its commitments, and the stakeholders will meet again the week of September 18 to discuss details of Duke Energy's conditional PTO and other issues. The parties did not have time to discuss the cost issue on August 25. While the negotiations are progressing, many solar developers remain very frustrated by their perception that Duke Energy consistently erects artificial barriers to interconnection.

Duke Energy Perspective

On August 29 I spoke with John Gajda, a Duke Energy representative at the August 25 interconnection meeting, and Ken Jennings, Duke Energy's Director for Renewable Strategies and Policy, to understand their perspective. Duke Energy's primary interest is ensuring that the integration of new solar facilities does not threaten grid stability. Until now, the technical specifications used at solar facilities and the quality of their implementation has varied greatly from project to project. As a result, Duke Energy saw some power interruptions at industrial facilities in 2016 and decided to establish minimum interconnection standards that reflect those used by Duke Energy's own generation facilities. Duke Energy hired AE to begin applying the standards to solar facilities connected in early 2017. During this transition period, Duke Energy paid \$15k-\$25 per interconnection (about 8 total) and communicated to developers that they would bear the interconnection costs.

John and Ken explained the rationale behind the interconnection process AE outlined in July. First, to provide some organization to the typical end-of-the-year rush to connect new solar facilities, AE asked developers to sign up for inspection slots. The number of slots reflects both AE's staffing capacity and the number of projects Duke Energy expected to be ready for interconnection by year end. Duke Energy thinks 18 slots is appropriate, given that only 20 solar projects have an executed interconnection

agreement and have started construction. Many solar developers requested slots for projects that are not as far along and that Duke Energy thinks will not be ready for interconnection this year.

Second, to address developer concerns about being able to interconnect in time to receive 2017 federal tax credits, Duke Energy has agreed to issue conditional permission to operate letters in 2017. This will allow a project to receive tax credits and begin generating in 2017, even as AE develops a final inspection report and the project corrects items that do not meet the interconnection standards. The conditional PTO status will allow AE inspectors to spend more time in the field in 2017 and be more flexible with inspection dates and potentially the number of inspections AE can provide. Duke Energy also explained that AE already has increased its staffing and AE cannot expand further because of a scarcity of qualified professionals.

Finally, Duke Energy explained that the cost of interconnection will decrease as developers learn the standards and take them seriously. When projects pass with only one inspection, costs come down because AE's compliance reports will take less time to generate and AE will not have to do a second inspection. In addition, Duke Energy and the Public Staff explained that Duke Energy developers need to pay the connection costs, rather than the utility spread those costs to all customers.

Email From Markus Wilhelm to Governor Cooper

Dear Governor Cooper,

First of all, I am sure the whole solar industry really appreciates your support of HB 589.

But we all continue to face major obstacles in the attempt to work closer with Duke on standard contracts, especially after a very painful 15 months stand still.

Duke has hired a completely understaffed engineering company (Advanced Energy) for the commissioning of our solar projects.

As a result we are back to a semi stand-still: most solar companies can not conclude absolutely time critical projects this year, which will make an already difficult year-end situation much worse.

Attached a summary letter from the NCCEBA to the Public Staff.

Any guidance and support (a call to Duke leadership?) you can provide to our industry in this matter is very much appreciated.

Best regards,

Markus Wilhelm,
CEO Strata Solar